



**PIC32 Microcontroller Family
with USB On-The-Go**

PIC[®]32[™]

PIC[®] MCU to the power of 32

Introducing the **PIC³²** Microcontroller

Building on the heritage of Microchip Technology's world-leading 8- and 16-bit PIC[®] microcontrollers, the PIC32 family delivers 32-bit performance and more memory to solve increasingly complex embedded system design challenges.

More Performance & Memory

Power your RTOS, Touch Screens and Complex Applications

- 80 MHz, 1.56 DMIPS/MHz MIPS M4K Core
- 512K Flash with pre-fetch cache
- 32K RAM for data and program execution
- Fast interrupts and context switch

More Cost Effective

Shorten Your Projects and Reuse Hardware, Software and Tools

- Free USB, TCP/IP, graphics and file system source code
- Common Explorer 16 development platform
- \$49.99 starter kit with free C compiler
- Hardware trace for less than \$80

More Compatibility

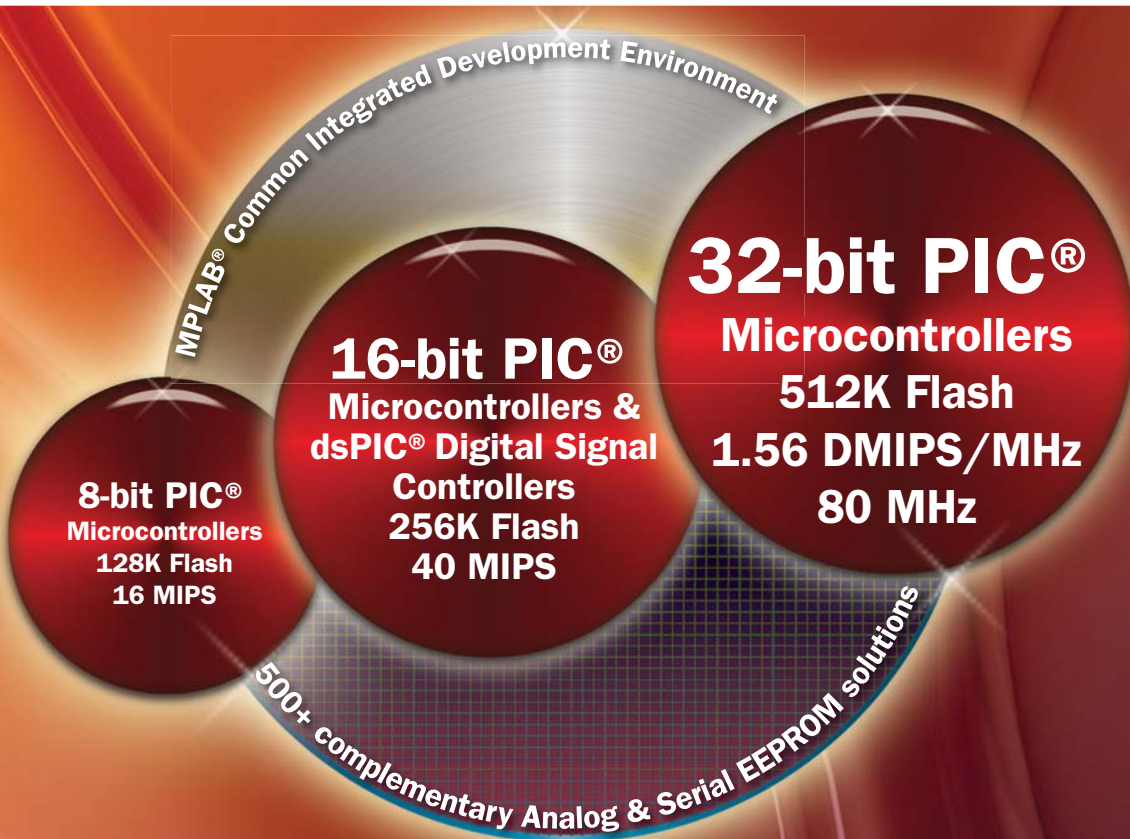
Create Scalable Products in a Consistent Environment

- Common MPLAB[®] development tools
- Pin & peripheral compatible with 16-bit PIC MCUs
- Peripheral libraries compatible with 16-bit PIC MCUs
- Common look and feel in ~500 PIC MCUs

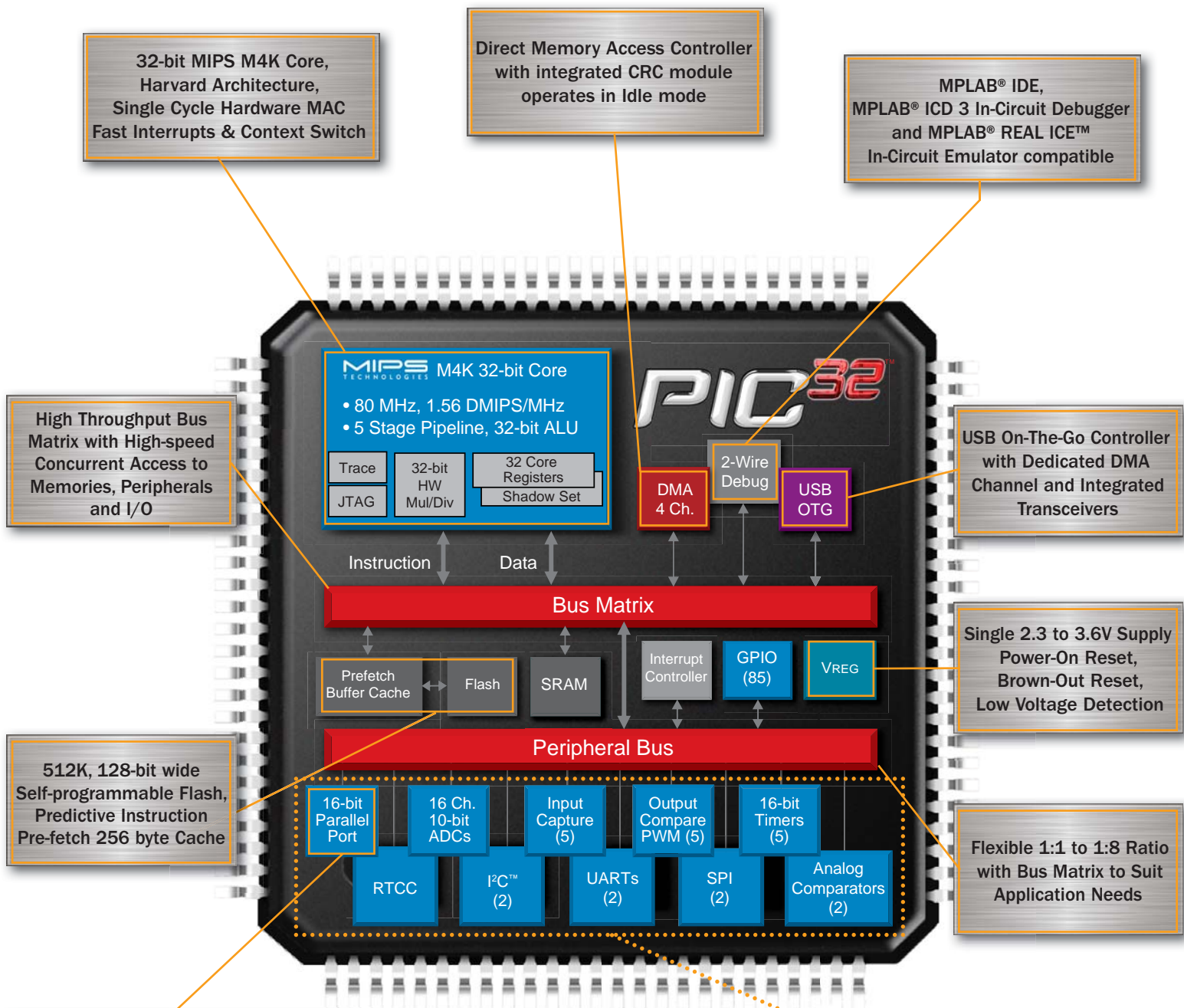
More Design Options

Simplify Your System Design Through Integration

- Extensive analog and digital peripherals
- USB device, host and On-The-Go functionality
- Up to 6 DMA (2 USB + 4 General Purpose with CRC)
- 16-bit parallel master port



Inside the PIC³² Microcontroller



High Throughput Bus Matrix with High-speed Concurrent Access to Memories, Peripherals and I/O

512K, 128-bit wide Self-programmable Flash, Predictive Instruction Pre-fetch 256 byte Cache

16-bit Parallel Master Port with Programmable Wait States. Connect to SRAM, Flash, QVGA LCDs or other Peripherals.



- More DMA
- Dual CAN2.0B
- 8-128 KB of RAM
- 10/100 Ethernet MAC
- BGA and QFN Packages
- Up to 6 UART, 5 I²C[™] and 4 SPI

Rich integrated Analog and Digital Peripheral Set, Compatible with 16-bit PIC[®] Microcontrollers

Developing with the PIC³²™ Microcontroller

Microchip is the only silicon vendor with a full 8-, 16- and 32-bit microcontroller portfolio supported by a unified development environment. The MPLAB® IDE is free and easy to use.

PIC32 Starter Kit - Only \$49.99^{USD}! (DM320001)



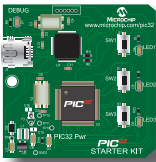
Getting started is easy with the fully integrated PIC32 Starter Kit featuring simple installation, getting started tutorial and PIC32 Starter Kit board with easy USB connection to your PC. The Starter Kit includes:

- MPLAB IDE and MPLAB C32 C Compiler†
- PIC32 Starter Board with Integrated Debugger
- Code Examples, Documentation, Tutorials and Sample Projects
- PIC32 USB Starter Kit (DM320003) available for \$55.

†Student Edition has **no code size limit** and full optimizations. After 60 days some optimizations are disabled.

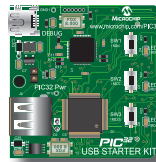
PIC32 Development Tools

PIC32 Starter Board
(DM320001)



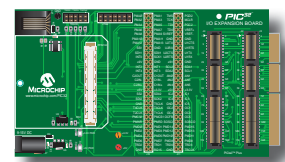
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USB Starter Board
(DM320003)



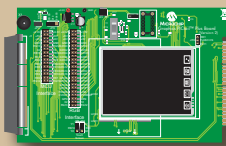
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I/O Expansion Board
(DM320002)



PICtail™ Boards Common to Both Development Environments

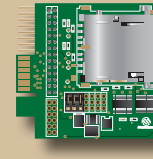
Graphics
PICtail™ Board
(AC164127)



Ethernet PICtail™ Plus
Daughter Board
(AC164123)



Many More!



MPLAB REAL ICE™
In-Circuit Emulation System
(DV244005)



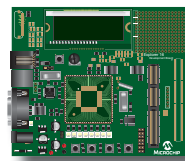
OR

MPLAB ICD 3
In-Circuit Debugger
(DV164035)



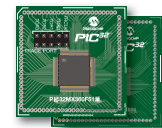
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Explorer 16
Development Board
(DM240001)





















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PIC32 Plug-in Modules
(MA320001)
(MA320002)



Microchip Software Libraries

www.microchip.com/pic32libraries

Connectivity	 Microchip TCP/IP with SSL and BSD  ZigBee® Protocol Stack for 802.15.4*  MiWi™ Protocol Stack for 802.15.4 Networks
USB	 USB Host, Device  USB OTG, Dual Role*  USB Class Drivers – HID, MSD, CDC, Custom, etc.
Graphics	 Microchip Graphics Library
CAN	 Standalone CAN Library
Audio	 Speex, ADPCM, PCM Encoding/Decoding Library
Encryption	 Public Key Cryptography Library (RSA)
Basic Libraries	 32-bit File System Library  16-bit File System Library  Math Library  Peripheral Library  EEPROM Emulation  DSP Library
Bootloader	 Serial Port Bootloader  USB Host Bootloader*

*Software planned for future - get the latest updates at www.microchip.com/pic32libraries

Third-party Application Software and Hardware Support

IDE, C/C++ Compiler and Debugger



Embedded RTOS Support



Graphics GUI Support



For the most up-to-date information about our 32-bit portfolio and related development tools and technical support, visit:
www.microchip.com/PIC32

Support

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www.microchip.com

Microchip Technology Inc.
2355 W. Chandler Blvd.
Chandler, AZ 85224-6199